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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,929	01/02/2001	C. Douglas Haigh	296/1	1238

7590 12/31/2003

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EXAMINER	
CHEN, TSE W	

ART UNIT	PAPER NUMBER
2116	4

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/752,929	HAIGH ET AL.	
	Examiner	Art Unit	
	Tse Chen	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 January 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *13-19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *13-19* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-12, drawn to the remote loading and booting up of an operating system, classified in class 717, subclass 174.

   II. Claims 13-14, drawn to the remote loading and booting up of an operating system within the same physical medium but different communication protocols, classified in class 709, subclass 200.

   III. Claims 16-19, drawn to the remote loading and booting up of an operating system for a plurality of computers organized in a hierarchy, classified in class 717, subclass 176.

2. The inventions are distinct, each from the other because of the following reasons: Inventions I - III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention III has separate utility such as hierarchical booting relationship whereas inventions I-II do not require any formal structure in the booting routine. Also, invention II encompasses a network that utilizes a different protocol whereas invention I employs a common bus. See MPEP § 806.05(d).

3. Because these inventions are distinct for the reasons given above and the searches required for each groups are different, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Matthew Dernier on December 10, 2003, a provisional election was made without traverse to prosecute the invention of remote loading and

booting of an operating system, claims 1-12. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

6. A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

7. A claim which depends from a dependent claim should not be separated by any claim which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n).

8. Claims 1-2, 4-7, and 9 are objected to because of the following informalities:

9. As per claim1, the phrase "physical storage medium" on line 5 should be "physical *disk* storage medium" to correspond with the previous term.

10. As per claim 2, the comma in the phrase "said first, software" on line 10 should be removed as it is unnecessary.

11. As per claims 4-6, the "system" on lines 16, 18, and 21 should be "*computer* system" to correspond with previous term.

12. As per claim 6, the word "also" on line 21 should be omitted as there was no mention of a configuration program in claim 3.

13. As per claim 7, the word "to" on line 3 should be "from" to correspond with the intent of the invention as specified in the disclosure.

14. As per claim 9, the phrase "the step installing" on line 10 should be corrected to "the steps *of* installing" or similar.

15. Appropriate correction is required.

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. Claims 1-3, and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Flaherty et. al., U.S. Patent 5280627, hereinafter referred to as Flaherty.

18. As per claims 1, 3 and 7, Flaherty taught an invention comprising:

- one diskless client [FIG.1, item 10; column 2, lines 60-63; column 4, lines 54-55; column 5, lines 23-24] and host [FIG.1, item14];
- the client and host utilize a common physical disk storage medium which stores an operating system for booting the client [FIG.1, item 34; column 4, lines 60-62]; and
- storing, in non-volatile memory [column 1, lines 50-61] of diskless client, code sufficient to load an operating system loader from the disk of a host, and

executing the code upon initialization to load the operating system loader, boot the client, and allow client to access disk through host [column 4, line 64 to column 5, line 24].

19. As per claims 2 and 8, Flaherty taught a Local Area Disk (LAD) program that allows a file on a disk on the network (i.e., host) to be treated as a virtual local disk by the client [column 5, lines 31-34]. In effect, the client can request for disk access through the host [column 6, lines 63-67] as the invention taught for loading the operating system from the host's disk. Accordingly, it would have been obvious for an ordinary artisan skilled in the art to reload the LAD driver from the host to further service requests for disk access to the host. This would be especially relevant in the case of diskless clients as suggested [column 2, lines 59-63].

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

21. Claims 4-6 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flaherty as applied to claims 1-3 and 7-8 above, and further in view of Cronk et al., U.S. Patent 6532538, hereinafter referred to as Cronk.

22. Flaherty taught a diskless computer capable of loading an operating system loader from a remote host disk. However, Flaherty's disclosed invention generally involved a homogenous disk with no evidence of plural partitions for multiple clients.

23. Cronk taught a network system comprising of multiple clients and servers sharing various resources such as disk drives [FIG.1; column 3, lines 9-51].

24. As per claims 4 and 10, Cronk taught physical disk storage medium divided into plural sections associated with and utilized by a different client [FIG.3; column 5, lines 12-17; column 7, lines 1-7].

25. As per claim 5, Cronk taught a drive configuration program for allocating sections of physical disk storage medium to store separate operating systems for each clients [column 5, lines 50-55, lines 61-63].

26. As per claim 6, Cronk taught a configuration program to restrict and manage access to the physical disk storage medium [column 6, lines 35-43].

27. As per claim 9, Cronk taught the setup of plural diskless computers within a cabinet to communicate on a common bus with a shared disk partitioned for each diskless computer [column 3, lines 53-61].

28. As per claim 11, Cronk taught server and diskless client operating using different operating systems [column 5, lines 14-37].

29. As per claim 12, Cronk taught server and diskless client operating using common operating system [column 2, lines 10-12].

30. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the multiple partitions of different operating systems for a plurality of computers as taught by Cronk with the teachings of Flaherty to provide remote booting capability for the increased popularity of network computers interconnected to share

resources but with different operating system requirements. The system can provide savings and logistical benefits (e.g., version updates) in a large cluster organization.

Conclusion

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Croll, U.S. Patent 5367688, disclosed a remote booting system with multiple drivers loading from host.
- Castor et. al., U.S. Patent 5590288, disclosed a distributed system for shared resources, including disk access through a host.
- Aguilar et. al., U.S. Patent 6643772, disclosed a universal boot code for a network of computers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tse Chen whose telephone number is (703) 305-8580. The examiner can normally be reached on Monday - Friday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on (703) 305-9717. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Tse Chen
December 17, 2003

THOMAS LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100